



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2022-0681; FRL-10386-01-R9]

Approval of Air Quality Implementation Plans; Vehicle Miles Traveled Emissions Offset Demonstrations for the 2015 Ozone Standards; California

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve revisions to the California state implementation plan (SIP) concerning vehicle miles traveled (VMT) offset demonstrations for the Los Angeles – South Coast Air Basin (South Coast), Riverside County (Coachella Valley), Los Angeles – San Bernardino Counties (West Mojave Desert), and San Joaquin Valley nonattainment areas (NAAs) for the 2015 ozone national ambient air quality standards (NAAQS). The EPA is proposing to approve these revisions because they demonstrate that California has added or implemented specific enforceable transportation control strategies and transportation control measures to offset the growth in emissions from growth in VMT and vehicle trips. We are proposing to approve these revisions under the Clean Air Act (CAA or “the Act”), which establishes VMT offset demonstration requirements for ozone nonattainment areas classified as “Severe” or “Extreme.”

DATES: Written comments must arrive on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2022-0681 at <https://www.regulations.gov>. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information

(CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>. If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Ben Leers, Air Planning Office (AIR-2), EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105, (415) 947-4279 or *Leers.Ben@epa.gov*.

SUPPLEMENTARY INFORMATION: Throughout this document, “we,” “us,” and “our” refer to the EPA.

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I. Background

On October 26, 2015, the EPA promulgated a revised 8-hour ozone NAAQS of 0.070 parts per million (ppm).¹ In accordance with section 107(d) of the CAA, the EPA must designate

¹ 80 FR 65292 (October 26, 2015).

an area “nonattainment” if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area.

On June 4, 2018, the EPA designated 21 areas in California as nonattainment for the 2015 ozone NAAQS. The designations became effective on August 3, 2018.² In its June 4, 2018 action, the EPA also classified the 21 nonattainment areas in California, including the South Coast and San Joaquin Valley NAAs as Extreme nonattainment and the Coachella Valley and West Mojave Desert NAAs as Severe nonattainment.

Within two years of designations, section 182(d)(1)(A) of the CAA and 40 CFR 51.1302 require a state with an ozone NAA classified as Severe or Extreme for the 2015 ozone NAAQS to submit a revision to the SIP that addresses the VMT offset demonstration requirement in the Act.³

On July 27, 2020, the California Air Resources Board (CARB) submitted a staff report titled “70 ppb Ozone SIP Submittal” (“July 2020 submittal”) to the EPA.⁴ In part, the July 2020 submittal contains the VMT offset demonstrations for the South Coast, Coachella Valley, and San Joaquin Valley NAAs.⁵ On December 28, 2020, CARB submitted to the EPA a staff report titled “West Mojave Desert VMT Offset Demonstration” (“December 2020 submittal”) for the West Mojave Desert NAA.⁶ In this action, we are evaluating and proposing action on portions of the July 2020 submittal that address the South Coast, Coachella Valley, and San Joaquin Valley

² 83 FR 25776 (June 4, 2018).

³ CAA section 182(d)(1)(A) includes three separate elements. In short, under section 182(d)(1)(A), states are required to adopt transportation control strategies and measures to offset growth in emissions from growth in VMT, and, as necessary, in combination with other emissions reduction requirements, to demonstrate reasonable further progress and attainment. For more information on the EPA’s interpretation of the three elements of section 182(d)(1)(A), see 77 FR 58067, 58068 (September 19, 2012) (proposed withdrawal of approval of South Coast VMT emissions offset demonstrations). In this action, we are only addressing the first element of CAA section 182(d)(1)(A), i.e., the VMT emissions offset requirement.

⁴ Letter dated July 24, 2020, from Richard W. Corey, Executive Officer, CARB, to John Busterud, Regional Administrator, EPA Region IX (submitted electronically July 27, 2020).

⁵ The July 2020 submittal also addresses base year emissions inventory requirements for 18 of the 21 NAAs in California. The EPA approved the July 2020 submittal as meeting the base year emissions inventory requirements for the 18 areas addressed in the submittal on September 29, 2022 (87 FR 59015).

⁶ Letter dated December 28, 2020, from Richard W. Corey, Executive Officer, CARB, to John Busterud, Regional Administrator, EPA Region IX (submitted electronically December 29, 2020).

VMT offset demonstrations and the December 2020 submittal of the West Mojave Desert VMT offset demonstration.

In California, CARB is the agency responsible for the adoption and submission to the EPA of California SIPs and SIP revisions, and it has broad authority to establish emissions standards and other requirements for mobile sources. Local and regional air pollution control districts in California are responsible for the regulation of stationary sources and are generally responsible for the development of regional air quality plans. The South Coast Air Quality Management District develops and adopts air quality management plans to address CAA planning requirements applicable in the South Coast and Coachella Valley NAAs. The San Joaquin Valley Air Pollution Control District develops and adopts air quality management plans to address CAA planning requirements applicable in the San Joaquin Valley NAA. The Antelope Valley Air Quality Management District and the Mojave Desert Air Quality Management District collectively develop and adopt air quality management plans to address CAA planning requirements applicable in the West Mojave Desert. Such plans are then submitted to CARB for adoption and submittal to the EPA as revisions to the California SIP.

A. The South Coast Ozone Nonattainment Area

The South Coast nonattainment area consists of Orange County, the southwestern two-thirds of Los Angeles County, a portion of southwestern San Bernardino County, and western Riverside County. The South Coast nonattainment area encompasses an area of approximately 6,600 square miles and is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east.⁷ The projected 2018 and 2030 populations of the South Coast NAA are over 16 million and 18 million people, respectively.⁸

B. The Coachella Valley 8-Hour Ozone Nonattainment Area

⁷ For a precise definition of the boundaries of the South Coast 2015 ozone nonattainment area, see 40 CFR 81.305.

⁸ South Coast Air Quality Management District, “2022 Draft Air Quality Management Plan,” Chapter 7, 7-2.

The Coachella Valley NAA is located within Riverside County, and its boundaries generally align with the Riverside County portion of the Salton Sea Air Basin.⁹ The projected 2018 and 2030 populations of the Coachella Valley NAA are 471,012 and 568,622, respectively.¹⁰

C. The San Joaquin Valley Ozone Nonattainment Area

The San Joaquin Valley NAA consists of San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, and Kings counties, and the western portion of Kern County. The San Joaquin Valley NAA stretches over 250 miles from north to south, averages a width of 80 miles, and encompasses over 23,000 square miles. It is partially enclosed by the Coast Mountain range to the west, the Tehachapi Mountains to the south, and the Sierra Nevada range to the east.¹¹ The population of the San Joaquin Valley in 2015 was estimated to be nearly 4.2 million people, and it is projected to increase to over 5.2 million people in 2030.¹²

D. The West Mojave Desert Ozone Nonattainment Area

The West Mojave Desert NAA consists of northeast Los Angeles County and portions of southwest and central San Bernardino County.¹³ The population of the West Mojave Desert NAA was estimated at 868,380 in 2010.¹⁴

II. Summary and Analysis of the State's Submittals

A. Statutory and Regulatory Requirements

CAA sections 110(a)(1) and 110(l) and 40 CFR 51.102 require states to provide reasonable notice and an opportunity for a public hearing prior to adoption of SIP revisions.

⁹ For a precise definition of the boundaries of the Coachella Valley 2015 ozone nonattainment area, see 40 CFR 81.305.

¹⁰ 2022 Draft Air Quality Management Plan, Chapter 7, 7-2.

¹¹ For a precise definition of the boundaries of the San Joaquin Valley 2015 ozone nonattainment area, see 40 CFR 81.305.

¹² The population estimates and projections include all of Kern County, not just the portion of Kern County within the jurisdiction of the SJVAPCD. See San Joaquin Valley Air Pollution Control District, "2016 Ozone Plan for 2008 8-Hour Ozone Standard," Adopted June 16, 2016, Chapter 1, Table 1-1.

¹³ For a precise definition of the boundaries of the West Mojave Desert 2015 ozone nonattainment area, see 40 CFR 81.305.

¹⁴ 8-Hour Ozone (2008) Designated Area/State Information, Green Book, EPA, accessed on November 19, 2020, Population Data from 2010, <https://www3.epa.gov/airquality/greenbook/hbtc.html>.

Section 110(k)(1)(B) requires the EPA to determine whether a SIP submittal is complete within 60 days of receipt. Any plan that the EPA does not affirmatively determine to be complete or incomplete will become complete six months after the day of submittal by operation of law. A finding of completeness does not approve the submittal as part of the SIP, nor does it indicate that the submittal is approvable. It does start a 12-month clock for the EPA to act on the SIP submittal.¹⁵

B. Summary of the State's Submittals

The July 2020 submittal documents the public review process followed prior to submittal to the EPA of the South Coast, Coachella Valley, and San Joaquin Valley VMT offset demonstrations as revisions to the SIP. In addition to the VMT offset demonstrations, the July 2020 submittal includes a copy of CARB's notice for a public meeting on June 25, 2020,¹⁶ a transcript from the June 25, 2020 meeting,¹⁷ a signed resolution stating that CARB provided at least 30 days for public review prior to the board hearing and that the VMT offset demonstrations were adopted after adequate notice and public hearing,¹⁸ and a compilation of comments received by CARB prior to and during the June 25, 2020 public meeting.¹⁹

The December 2020 submittal documents the public review process followed prior to the submittal to the EPA of the West Mojave Desert VMT offset demonstration as a revision to the SIP. In addition to the West Mojave Desert VMT offset demonstration, the December 2020 submittal includes a copy of CARB's notice for a public meeting on October 22, 2020,²⁰ a signed resolution stating that CARB provided at least 30 days for public review prior to the board hearing and the West Mojave Desert VMT offset demonstration was adopted after adequate

¹⁵ See CAA section 110(k)(2).

¹⁶ "Notice of Public Meeting to Consider 70 Parts Per Billion Ozone State Implementation Plan Submittal," California Air Resources Board, May 22, 2020.

¹⁷ "Videoconference Meeting, State of California, Air Resources Board, CALEPA Headquarters, Byron Sher Auditorium, Second Floor, 1001 I Street, Sacramento, California," J&K Court Reporting, LLC, June 25, 2020.

¹⁸ "70 Parts Per Billion Ozone State Implementation Plan Submittal," Resolution 20-17, CARB, June 25, 2020.

¹⁹ Compilation of comments received for 70 Parts Per Billion Ozone State Implementation Plan Submittal. CARB indicated in its July 24, 2020 transmittal letter to the EPA that CARB has considered all comments and has determined all are non-substantive and do not pertain to the action.

²⁰ "Notice of Public Meeting to Consider the West Mojave Desert VMT Offset Demonstration," California Air Resources Board, September 18, 2020.

notice and public hearing,²¹ and a comment received by CARB prior to the October 22, 2020 public meeting.²²

1. Stationary and Regulatory Requirements

Section 182(d)(1)(A) of the Act requires a state to submit, for each ozone nonattainment area classified as Severe or above, a SIP revision that “identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or number of vehicle trips in such area.” Herein, we refer to the related SIP requirement as the “VMT emissions offset requirement.” In addition, we refer to the SIP revision intended to demonstrate compliance with the VMT emissions offset requirement as the “VMT emissions offset demonstration.”

In *Association of Irrigated Residents v. EPA*, the Ninth Circuit ruled that additional transportation control measures are required whenever vehicle emissions are projected to be higher than they would have been had VMT not increased, even when aggregate vehicle emissions are actually decreasing.²³ In response to the court’s decision, in August 2012, the EPA issued a memorandum titled “Implementing Clean Air Act Section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Travelled” (“August 2012 Guidance”).²⁴

The August 2012 Guidance discusses the meaning of “transportation control strategies” (TCS) and “transportation control measures” (TCM) and recommends that both TCSs and TCMs be included in the calculations made for the purpose of determining the degree to which any hypothetical growth in emissions due to growth in VMT should be offset. Generally, TCS is a

²¹ “West Mojave Desert Vehicle Miles Traveled Offset Demonstration,” Resolution 20–27, California Air Resources Board, October 22, 2020.

²² CARB determined the comment to be non-substantive and did not pertain to the Board’s action on the item. No comments were received during the Board meeting.

²³ See *Association of Irrigated Residents v. EPA*, 632 F.3d 584, at 596-597 (9th Cir. 2011), reprinted as amended on January 27, 2012, 686 F.3d 668, further amended February 13, 2012 (“*Association of Irrigated Residents*”).

²⁴ Memorandum dated August 30, 2012, Karl Simon, Director, Transportation and Climate Division, Office of Transportation and Air Quality, to Carl Edland, Director, Multimedia Planning and Permitting Division, EPA Region 6, and Deborah Jordan, Director, Air Division, EPA Region 9.

broad term that encompasses many types of controls (including, for example, motor vehicle emissions limitations, inspection and maintenance (I/M) programs, alternative fuel programs, other technology-based measures, and TCMs) that would fit within the regulatory definition of “control strategy.”²⁵ A TCM is defined at 40 CFR 51.100(r) as “any measure that is directed toward reducing emissions of air pollutants from transportation sources,” including, but not limited to, those listed in section 108(f) of the CAA. TCMs generally refer to programs intended to reduce VMT, number of vehicle trips, or traffic congestion, such as programs for improved public transit, designation of certain lanes for passenger buses and high-occupancy vehicles, and trip reduction ordinances.

The August 2012 Guidance explains how states may demonstrate that the VMT emissions offset requirement is satisfied in conformance with the Court’s ruling in *Association of Irrigated Residents*. Under the August 2012 Guidance, states are recommended to develop one emissions inventory for the base year and three different emissions inventory scenarios for the attainment year. For the attainment year, the state would present three emissions estimates, two of which would represent hypothetical emissions scenarios that would provide the basis to identify the “growth in emissions” due solely to the growth in VMT, and one that would represent projected actual motor vehicle emissions after fully accounting for projected VMT growth and offsetting emissions reductions obtained by all creditable TCSs and TCMs. See the August 2012 Guidance for specific details on how states might conduct the calculations.

The base year on-road volatile organic compound (VOC) emissions should be calculated using VMT in that year, and they should reflect all enforceable TCSs and TCMs in place in the base year. This would include vehicle emissions standards, state and local control programs, such as I/M programs or fuel rules, and any additional implemented TCSs and TCMs that were already required by or credited in the SIP as of that base year.

²⁵ See, e.g., 40 CFR 51.100(n).

The first of the emissions calculations for the attainment year is based on the projected VMT and trips for that year and assume that no new TCSs or TCMs beyond those already credited in the base year inventory have been added or implemented since the base year. This calculation demonstrates how emissions would hypothetically change if no new TCSs or TCMs were added or implemented, and VMT and trips were allowed to grow at the projected rate from the base year. This estimate shows the potential for an increase in emissions due solely to growth in VMT and trips, representing a “no action” scenario. Attainment year emissions in this scenario may be lower than those in the base year due to the fleet that was on the road in the base year gradually being replaced through fleet turnover; however, provided that VMT and/or numbers of vehicle trips would in fact increase by the attainment year, emissions would still likely be higher than they would have been assuming VMT had held constant.

The second of the attainment year’s emissions calculations assumes that no new TCSs or TCMs beyond those already credited have been added or implemented since the base year, but it also assumes no growth in VMT and trips between the base year and attainment year. This estimate reflects the hypothetical emissions level that would have occurred if no further TCMs or TCSs had been added or implemented and if VMT and trip levels had held constant since the base year. Like the “no action” attainment year estimate described above, emissions in the attainment year may be lower than those in the base year due to the fleet that was on the road in the base year gradually being replaced by cleaner vehicles through fleet turnover, but in this case, they would not be influenced by any growth in VMT or trips. This emissions estimate reflects a ceiling on the attainment emissions that should be allowed to occur under the statute as interpreted by the court in *Association of Irrigated Residents* because it shows what would happen under a scenario in which no offsetting TCSs or TCMs have yet been added or implemented, and VMT and trips are held constant during the period from the area’s base year to its attainment year. This represents a “VMT offset ceiling” scenario. These two hypothetical status quo estimates are necessary to identify the target level of emissions from which states

would determine whether further TCMs or TCSs, beyond those that have been adopted and implemented in reality, would need to be adopted and implemented in order to fully offset any increase in emissions due solely to VMT and trips identified in the “no action” scenario.

Finally, the third attainment year emissions estimate represents the emissions that are actually expected to occur in the area’s attainment year after taking into account reductions from all enforceable TCSs and TCMs. This estimate is based on the VMT and trip levels expected to occur in the attainment year (i.e., the VMT and trip levels from the first estimate) and all of the TCSs and TCMs expected to be in place and for which the SIP will take credit in the area’s attainment year, including any TCMs and TCSs added or implemented since the base year. This represents the “projected actual” attainment year scenario. If this emissions estimate is less than or equal to the emissions ceiling that was established in the second of the attainment year calculations, the TCSs and TCMs for the attainment year would be sufficient to fully offset the identified hypothetical growth in emissions.

If, instead, the estimated projected actual attainment year emissions are still greater than the ceiling that was established in the second of the attainment year emissions calculations, even after accounting for post-baseline year TCSs and TCMs, the state would need to adopt and implement additional TCSs or TCMs to further offset the growth in emissions. The additional TCSs or TCMs would need to bring the actual emissions down to at least the VMT offset ceiling estimated in the second of the attainment year calculations, to meet the VMT offset requirement of section 182(d)(1)(A) as interpreted by the Court.

2. Summary of State’s Submission

CARB prepared the VMT emissions offset demonstrations for the South Coast, Coachella Valley, San Joaquin Valley, and West Mojave Desert for the 2015 ozone NAAQS, and they are documented in the July 2020 and December 2020 submittals. In addition to the VMT emissions offset demonstrations, the submittals include attachments listing TCSs adopted by CARB since

1990,²⁶ TCMs developed by the Southern California Association of Governments (SCAG),²⁷ the metropolitan planning organization (MPO) for the South Coast, Coachella Valley, and West Mojave Desert NAAs,²⁸ and TCMs developed by the eight MPOs²⁹ in the San Joaquin Valley NAA.³⁰

For the VMT emissions offset demonstrations, CARB used EMFAC2017, the latest EPA-approved motor vehicle emissions model for California available at the time the four VMT offset demonstrations were developed.³¹ The EMFAC2017 model estimates the on-road emissions from two combustion processes (i.e., running exhaust and start exhaust) and four evaporative processes (i.e., hot soak, running losses, diurnal losses, and resting losses). The EMFAC2017 model combines trip-based VMT data from the regional transportation planning agency (e.g., SCAG), vehicle start data based on household travel surveys, and vehicle population data from the California Department of Motor Vehicles. These sets of data are combined with corresponding emissions rates to calculate emissions.

Emissions from running exhaust, start exhaust, hot soak, and running losses are a function of how much a vehicle is driven. Emissions from these processes are thus directly related to VMT and vehicle trips, and CARB included these emissions in the calculations that provide the basis for four VMT emissions offset demonstrations addressed in this proposed action. CARB did not include emissions from resting loss and diurnal loss processes in the analysis because such emissions are related to vehicle population, not to VMT or vehicle trips,

²⁶ See attachments B-1 in the July 2020 submittal and A-1 in the December 2020 submittal.

²⁷ SCAG is the metropolitan planning organization for the South Coast NAA and surrounding areas. The SCAG region also includes the West Mojave Desert NAA and encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles.

²⁸ See attachments B-2 in the July 2020 submittal and A-2 in the December 2020 submittal.

²⁹ The following eight MPOs represent the eight counties in the San Joaquin Valley nonattainment area: The San Joaquin Council of Governments, the Stanislaus Council of Governments, the Merced County Association of Governments, the Madera County Transportation Commission, The Council of Fresno County Governments, The Kings County Association of Governments, the Tulare County Association of Governments, and the Kern Council of Governments.

³⁰ See attachment B-2 in the July 2020 submittal.

³¹ On August 15, 2019, the EPA approved and announced the availability of EMFAC2017, the latest update to the EMFAC model for use by State and local governments to meet CAA requirements. See 84 FR 41717 (August 15, 2019).

and thus are not part of “any growth in emissions from growth in vehicle miles traveled or numbers of vehicle trips in such area” under CAA section 182(d)(1)(A).

The VMT emissions offset demonstrations in the July 2020 and December 2020 submittals use a 2017 base year. The base year for VMT emissions offset demonstration purposes should generally be the same base year used for nonattainment planning purposes. On September 29, 2022, the EPA approved the 2017 base year inventories for 18 ozone NAAs in California, including South Coast, Coachella Valley, San Joaquin Valley, and West Mojave Desert, for the purposes of the 2015 ozone NAAQS, and thus, CARB’s selection of 2017 is appropriate as the base year for the VMT emissions offset demonstrations for the 2015 ozone NAAQS in the July 2020 and December 2020 submittals.³²

The VMT emissions offset demonstrations also include the three different attainment year scenarios (i.e., no action, VMT offset ceiling, and projected actual) described in section II.B.1 of this notice. On July 5, 2022, CARB provided additional technical information in support of the attainment year inventories used to derive the three different attainment year scenarios in the VMT offset demonstrations.³³ On August 16, 2020, CARB provided additional technical clarification regarding vehicle populations, VMT, and vehicle starts (i.e., trips) in the attainment scenarios. Because mileage accrual rates vary between gasoline and electric vehicles, the vehicle populations and starts vary among the attainment year scenarios. VMT accrual for gasoline vehicles is slightly higher than electric vehicles before model year (MY) 2025; because CARB anticipates that battery range will increase over time, CARB assumes that VMT accrual per year for electric vehicles will equal that of gasoline vehicles in MY 2025 and later. Further, other factors such as spatial allocation and fuel matching characteristics of the EMFAC model influence the vehicle population estimates. Therefore, different populations of gasoline and

³² 87 FR 59015.

³³ CARB further clarified the additional technical information in supplementary emails dated August 11 and 16, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX) regarding VMT offset demonstrations.

electric vehicles (and, consequently, different total populations and numbers of starts) may correspond to the same VMT.³⁴

The EPA has reviewed the supporting technical information used to calculate the 2032 attainment year scenarios for Coachella Valley and West Mojave Desert Severe nonattainment areas and the 2037 attainment year scenarios for South Coast and San Joaquin Valley Extreme nonattainment areas. We reviewed the VMT, vehicle population, and vehicle trip data input to EMFAC2017 and compared modeled emissions reductions to the reductions expected from measures implemented after the base year. Based on our review, we propose to find the information to be adequate for use in the VMT offset demonstrations. We propose to find acceptable CARB's selection of year 2032 as the attainment year for the Coachella Valley and West Mojave Desert VMT emissions offset demonstrations and 2037 as the attainment year for the South Coast and San Joaquin Valley VMT emissions offset demonstrations for the 2015 ozone NAAQS.

(a) South Coast

Table 1 summarizes the relevant distinguishing parameters for each of the emissions scenarios and shows CARB's corresponding VOC emissions estimates in tons per day (tpd) for the South Coast VMT offset demonstration for the 2015 ozone NAAQS.

³⁴ See email dated August 16, 2022, from Nesamani Kalandiyur (CARB) and Karina O'Connor (EPA Region IX) to John Ungvarsky (EPA Region IX) regarding VMT offset demonstrations.

Table 1. VMT Emissions Offset Inventory Scenarios and Results for South Coast for the 2015 Ozone NAAQS

Scenario	VMT (1,000/day)	Starts (1,000/day)	VOC Emissions (tpd)
Base Year (2017)	395,571	48,172	75
No Action (2037); no new measures, with VMT growth	407,368	61,173	40
VMT Offset Ceiling (2037); no new measures, no VMT growth	395,571	59,997	36
Projected Actual (2037); new measures included, with VMT growth	407,368	59,869	29

Source: July 2020 submittal, Tables 1 and 2, p. 25 - 26. Starts data provided in attachment ("South Coast VMT Offset - 2019 FSTIP - February 27 2020_USEPA.xlsx") in email dated July 5, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

For the base year scenario, CARB ran the EMFAC2017 model for the 2017 base year using VMT and starts data corresponding to that year. As shown in Table 1, CARB estimates the South Coast VOC emissions at 75 tpd in 2017.

For the no action scenario, CARB first identified the on-road motor vehicle control programs (i.e., TCSs or TCMs) added or implemented since the base year and incorporated into EMFAC2017. CARB then ran EMFAC2017 with the VMT and starts data corresponding to the 2037 attainment year without the emissions reductions from the on-road motor vehicle control programs added or implemented after the base year. Thus, the no action scenario reflects the hypothetical VOC emissions in the attainment year if CARB had not added or implemented any additional TCSs or TCMs after 2017. As shown in Table 1, CARB estimates the no action South Coast VOC emissions at 40 tpd in 2037.

For the VMT offset ceiling scenario, CARB ran the EMFAC2017 model for the 2037 attainment year but with VMT and starts data corresponding to the 2017 base year. Like the no action scenario, the EMFAC2017 model was adjusted to reflect the VOC emissions levels in the attainment year without the benefits of the post-base-year on-road motor vehicle control programs. Thus, the VMT offset ceiling scenario reflects hypothetical VOC emissions in the South Coast if CARB had not added or implemented any TCSs or TCMs after the base year and

if there had been no growth in VMT or vehicle trips between the base year and the attainment year.

The hypothetical growth in emissions due to growth in VMT and trips can be determined from the difference between the VOC emissions estimates under the no action and VMT offset ceiling scenarios. Based on the values in Table 1, the hypothetical growth in emissions due to growth in VMT and trips in the South Coast would have been 4 tpd (i.e., 40 tpd minus 36 tpd). This hypothetical difference establishes the level of VMT growth-caused emissions that need to be offset by the combination of post-baseline year TCSs and TCMs and any necessary additional TCSs and TCMs.

For the projected actual scenario calculation, CARB ran the EMFAC2017 model for the attainment year with VMT and starts data at attainment year values and with the full benefits of the relevant post-baseline year motor vehicle control programs. For this scenario, CARB included the emissions benefits from TCSs and TCMs added or implemented since the base year. Significant VOC emissions reductions during the 2017–2037 timeframe result from the zero emission vehicle provisions of the Advanced Clean Cars program.³⁵

As shown in Table 1, the projected actual attainment year VOC emissions are 29 tpd. CARB compared this value against the corresponding VMT offset ceiling value to determine whether additional TCSs or TCMs would need to be adopted and implemented in order to offset any increase in emissions due solely to VMT and trips. Because the projected actual emissions do not exceed the corresponding VMT offset ceiling emissions, CARB concluded that the demonstration shows compliance with the VMT emissions offset requirement and that the adopted TCSs and TCMs are sufficient to offset the growth in emissions from the growth in VMT and vehicle trips in the South Coast for the 2015 ozone NAAQS.

³⁵ Attachment B-1 to the July 2022 submittal includes a list of the state's TCSs adopted by CARB since 1990. Also see EPA final action on CARB mobile source SIP submittals at 81 FR 39424 (June 16, 2016), 82 FR 14446 (March 21, 2017), and 83 FR 23232 (May 18, 2018). Also see email dated August 16, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

(b) Coachella Valley

Table 2 summarizes the relevant distinguishing parameters for each of the emissions scenarios and shows CARB's corresponding VOC emissions estimates for the Coachella Valley VMT offset demonstration for the 2015 ozone NAAQS.

Table 2. VMT Emissions Offset Inventory Scenarios and Results for the Coachella Valley NAA for the 2015 Ozone NAAQS

Scenario	VMT (1,000/day)	Starts (1,000/day)	VOC Emissions (tpd)
Base Year (2017)	13,479	1,751	3.1
No Action (2032); no new measures, with VMT growth	16,284	2,395	2.0
VMT Offset Ceiling (2032); no new measures, no VMT growth	13,479	2,023	1.6
Projected Actual (2032); new measures included, with VMT growth	16,284	2,350	1.6

Source: July 2020 submittal, Tables 3 and 4, p. 28 - 29. Starts data provided in attachment ("Coachella VMT Offset - 2019 FSTIP - April 2 2020_USEPA.xlsx") in email dated August 11, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

For the base year scenario, CARB ran the EMFAC2017 model for the 2017 base year using VMT and starts data corresponding to that year. As shown in Table 2, CARB estimates the Coachella Valley VOC emissions at 3.1 tpd in 2017.

For the no action scenario, CARB first identified the on-road motor vehicle control programs (i.e., TCSs or TCMs) added or implemented since the base year and incorporated into EMFAC2017. CARB then ran EMFAC2017 with the VMT and starts data corresponding to the 2032 attainment year without the emissions reductions from the on-road motor vehicle control programs added or implemented after the base year. Thus, the no action scenario reflects the hypothetical VOC emissions in the attainment year if CARB had not added or implemented any additional TCSs or TCMs after 2017. As shown in Table 2, CARB estimates the no action Coachella Valley VOC emissions at 2.0 tpd in 2032.

For the VMT offset ceiling scenario, CARB ran the EMFAC2017 model for the 2032 attainment year but with VMT and starts data corresponding to the 2017 base year. Like the no

action scenario, the EMFAC2017 model was adjusted to reflect the VOC emissions levels in the attainment year without the benefits of the post-base-year on-road motor vehicle control programs. Thus, the VMT offset ceiling scenario reflects hypothetical VOC emissions in the Coachella Valley if CARB had not added or implemented any TCSs or TCMs after the base year and if there had been no growth in VMT or vehicle trips between the base year and the attainment year.

The hypothetical growth in emissions due to growth in VMT and trips can be determined from the difference between the VOC emissions estimates under the no action and VMT offset ceiling scenarios. Based on the values in Table 2, the hypothetical growth in emissions due to growth in VMT and trips in the Coachella Valley would have been 0.4 tpd (i.e., 2.0 tpd minus 1.6 tpd). This hypothetical difference establishes the level of VMT growth-caused emissions that need to be offset by the combination of post-baseline year TCSs and TCMs and any necessary additional TCSs and TCMs.

For the projected actual scenario calculation, CARB ran the EMFAC2017 model for the attainment year with VMT and starts data at attainment year values and with the full benefits of the relevant post-baseline year motor vehicle control programs. For this scenario, CARB included the emissions benefits from TCSs and TCMs added or implemented since the base year. Significant VOC emissions reductions during the 2017–2037 timeframe result from the zero emission vehicle provisions of the Advanced Clean Cars program.³⁶

As shown in Table 2, the projected actual attainment year VOC emissions are 1.6 tpd. CARB compared this value against the corresponding VMT offset ceiling value to determine whether additional TCSs or TCMs would need to be adopted and implemented in order to offset any increase in emissions due solely to VMT and trips. Because the projected actual emissions

³⁶ Attachment B-1 to the July 2022 submittal includes a list of the state's TCSs adopted by CARB since 1990. Also see EPA final action on CARB mobile source SIP submittals at 81 FR 39424 (June 16, 2016), 82 FR 14446 (March 21, 2017), and 83 FR 23232 (May 18, 2018). Also see email dated August 16, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

do not exceed the corresponding VMT offset ceiling emissions, CARB concluded that the demonstration shows compliance with the VMT emissions offset requirement and that the adopted TCSs and TCMs are sufficient to offset the growth in emissions from the growth in VMT and vehicle trips in the Coachella Valley for the 2015 ozone NAAQS.

(c) San Joaquin Valley

Table 3 summarizes the relevant distinguishing parameters for each of the emissions scenarios and shows CARB's corresponding VOC emissions estimates for the San Joaquin Valley VMT offset demonstration for the 2015 ozone NAAQS.

Table 3. VMT Emissions Offset Inventory Scenarios and Results for the San Joaquin Valley NAA for the 2015 Ozone NAAQS

Scenario	VMT (1,000/day)	Starts (1,000/day)	VOC Emissions (tpd)
Base Year (2017)	101,828	13,223	26.6
No Action (2037); no new measures, with VMT growth	128,611	18,534	13.4
VMT Offset Ceiling (2037); no new measures, no VMT growth	101,828	14,685	10.2
Projected Actual (2037); new measures included, with VMT growth	128,611	18,171	10.0

Source: "SJV Total - 8 GAIs - VMT Offset ROG Emissions - April 7 2020_USEPA (updated 081222).xlsx," included in email dated August 15, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX). Note that the San Joaquin Valley VMT offset demo in the July 2022 submittal erroneously reported VMT and emissions data for San Joaquin County rather than the entire San Joaquin Valley nonattainment area. CARB provided VMT, starts, and emissions data for the San Joaquin Valley nonattainment area in CARB's August 15, 2022 supplemental email to EPA Region IX.

For the base year scenario, CARB ran the EMFAC2017 model for the 2017 base year using VMT and starts data corresponding to that year. As shown in Table 3, CARB estimates the San Joaquin Valley VOC emissions at 26.6 tpd in 2017.

For the no action scenario, CARB first identified the on-road motor vehicle control programs added or implemented since the base year and incorporated into EMFAC2017. CARB then ran EMFAC2017 with the VMT and starts data corresponding to the 2037 attainment year without the emissions reductions from the on-road motor vehicle control programs added or implemented after the base year. Thus, the no action scenario reflects the hypothetical VOC

emissions in the attainment year if CARB had not added or implemented any additional TCSs and TCMs after 2017. As shown in Table 3, CARB estimates the no action San Joaquin Valley VOC emissions at 13.4 tpd in 2037.

For the VMT offset ceiling scenario, CARB ran the EMFAC2017 model for the 2037 attainment year but with VMT and starts data corresponding to the 2017 base year. Like the no action scenario, the EMFAC2017 model was adjusted to reflect the VOC emissions levels in the attainment year without the benefits of the post-base-year on-road motor vehicle control programs. Thus, the VMT offset ceiling scenario reflects hypothetical VOC emissions in the San Joaquin Valley if CARB had not added or implemented any TCSs and TCMs after the base year and if there had been no growth in VMT or vehicle trips between the base year and the attainment year.

The hypothetical growth in emissions due to growth in VMT and trips can be determined from the difference between the VOC emissions estimates under the no action and VMT offset ceiling scenarios. Based on the values in Table 3, the hypothetical growth in emissions due to growth in VMT and trips in the San Joaquin Valley would have been 3.2 tpd (i.e., 13.4 tpd minus 10.2 tpd). This hypothetical difference establishes the level of VMT growth-caused emissions that need to be offset by the combination of post-baseline year TCSs and TCMs and any necessary additional TCSs and TCMs.

For the projected actual scenario calculation, CARB ran the EMFAC2017 model for the attainment year with VMT and starts data at attainment year values and with the full benefits of the relevant post-baseline year motor vehicle control programs. For this scenario, CARB included the emissions benefits from TCSs and TCMs added or implemented since the base year.

Significant VOC emissions reductions during the 2017–2037 timeframe result from the zero emission vehicle provisions of the Advanced Clean Cars program.³⁷

As shown in Table 3, the projected actual attainment year VOC emissions are 10.0 tpd. CARB compared this value against the corresponding VMT offset ceiling value to determine whether additional TCSs or TCMs would need to be adopted and implemented in order to offset any increase in emissions due solely to VMT and trips. Because the projected actual emissions do not exceed the corresponding VMT offset ceiling emissions, CARB concluded that the demonstration shows compliance with the VMT emissions offset requirement and that the adopted TCSs and TCMs are sufficient to offset the growth in emissions from the growth in VMT and vehicle trips in the San Joaquin Valley for the 2015 ozone NAAQS.

(d) West Mojave Desert

Table 4 summarizes the relevant distinguishing parameters for each of the emissions scenarios and shows CARB’s corresponding VOC emissions estimates for the West Mojave Desert VMT offset demonstration for the 2015 ozone NAAQS.

Table 4. VMT Emissions Offset Inventory Scenarios and Results for West Mojave Desert NAA for the 2015 Ozone NAAQS

Scenario	VMT (1,000/day)	Starts (1,000/day)	VOC Emissions (tpd)
Base Year (2017)	31,687	3,871	7.7
No Action (2032); no new measures, with VMT growth	38,740	5,076	4.4
VMT Offset Ceiling (2032); no new measures, no VMT growth	31,687	4,286	4.0
Projected Actual (2032); new measures included, with VMT growth	38,740	4,975	3.8

Source: December 2020 submittal, Tables 1 and 2, p. 6 - 7. Starts data provided in attachment (“Western Mojave VMT Offset - July 2020 Activity - July 24 2020_USEPA.xlsx”) in email dated July 5, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

³⁷ Attachment A-1 to the December 2022 submittal includes a list of the state’s TCSs adopted by CARB since 1990. Also see EPA final action on CARB mobile source SIP submittals at 81 FR 39424 (June 16, 2016), 82 FR 14446 (March 21, 2017), and 83 FR 23232 (May 18, 2018), and email dated August 16, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

For the base year scenario, CARB ran the EMFAC2017 model for the 2017 base year using VMT and starts data corresponding to that year. As shown in Table 4, CARB estimates the West Mojave Desert VOC emissions at 7.7 tpd in 2017.

For the no action scenario, CARB first identified the on-road motor vehicle control programs (i.e., TCSs and TCMs added or implemented since the base year and incorporated into EMFAC2017. CARB then ran EMFAC2017 with the VMT and starts data corresponding to the 2032 attainment year without the emissions reductions from the on-road motor vehicle control programs added or implemented after the base year. Thus, the no action scenario reflects the hypothetical VOC emissions in the attainment year if CARB had not added or implemented any additional TCSs or TCMs after 2017. As shown in Table 4, CARB estimates the no action West Mojave Desert VOC emissions at 4.4 tpd in 2032.

For the VMT offset ceiling scenario, CARB ran the EMFAC2017 model for the 2032 attainment year but with VMT and starts data corresponding to the 2017 base year. Like the no action scenario, the EMFAC2017 model was adjusted to reflect the VOC emissions levels in the attainment year without the benefits of the post-base-year on-road motor vehicle control programs. Thus, the VMT offset ceiling scenario reflects hypothetical VOC emissions in the West Mojave Desert if CARB had not added or implemented any TCSs or TCMs after the base year and if there had been no growth in VMT or vehicle trips between the base year and the attainment year.

The hypothetical growth in emissions due to growth in VMT and trips can be determined from the difference between the VOC emissions estimates under the no action and VMT offset ceiling scenarios. Based on the values in Table 4, the hypothetical growth in emissions due to growth in VMT and trips in the West Mojave Desert would have been 0.4 tpd (i.e., 4.4 tpd minus 4.0 tpd). This hypothetical difference establishes the level of VMT growth-caused emissions that need to be offset by the combination of post-baseline year TCSs and TCMs and any necessary additional TCSs and TCMs.

For the projected actual scenario calculation, CARB ran the EMFAC2017 model for the attainment year with VMT and starts data at attainment year values and with the full benefits of the relevant post-baseline year motor vehicle control programs. For this scenario, CARB included the emissions benefits from TCSs and TCMs added or implemented since the base year. Significant VOC emissions reductions during the 2017–2037 timeframe result from the zero emission vehicle provisions of the Advanced Clean Cars program.³⁸

As shown in Table 4, the projected actual attainment year VOC emissions are 3.8 tpd. CARB compared this value against the corresponding VMT offset ceiling value to determine whether additional TCSs or TCMs would need to be adopted and implemented in order to offset any increase in emissions due solely to VMT and trips. Because the projected actual emissions do not exceed the corresponding VMT offset ceiling emissions, CARB concluded that the demonstration shows compliance with the VMT emissions offset requirement and that the adopted TCSs and TCMs are sufficient to offset the growth in emissions from the growth in VMT and vehicle trips in the West Mojave Desert for the 2015 ozone NAAQS.

3. The EPA’s Review of the State’s Submittals

The EPA reviewed the South Coast, Coachella Valley, and San Joaquin Valley VMT emissions offset demonstrations in the July 2020 submittal and the West Mojave Desert VMT emissions offset demonstration in the December 2020 submittal. Based on our review, we propose to find CARB’s analysis to be consistent with our August 2012 Guidance and consistent with the emissions and vehicle activity estimates provided by CARB. We agree that the mobile source measures adopted by CARB and implemented by SCAG and the San Joaquin Valley MPOs are sufficient to offset growth in emissions from growth in VMT and vehicle trips in the South Coast, Coachella Valley, San Joaquin Valley, and West Mojave Desert for the purposes of

³⁸ Attachment B-1 to the July 2022 submittal includes a list of the state’s TCSs adopted by CARB since 1990. Also see EPA final action on CARB mobile source SIP submittals at 81 FR 39424 (June 16, 2016), 82 FR 14446 (March 21, 2017), and 83 FR 23232 (May 18, 2018), and email dated August 16, 2022, from Nesamani Kalandiyur (CARB) to John Ungvarsky (EPA Region IX).

the 2015 ozone NAAQS. Therefore, we propose to approve the South Coast, Coachella Valley, San Joaquin Valley, and West Mojave Desert VMT emissions offset demonstration elements as meeting the requirements of CAA section 182(d)(1)(A).

III. Proposed Action

For the reasons discussed in this notice, under CAA section 110(k)(3), the EPA is proposing to approve the following as revisions to the California SIP:

- VMT emissions offset demonstration element in the July 27, 2020 CARB submittal for the Los Angeles – South Coast Air Basin (South Coast), Riverside County (Coachella Valley), and San Joaquin Valley nonattainment areas as meeting the requirements of CAA section 182(d)(1)(A) and 40 CFR 51.1302 for the 2015 ozone NAAQS
- VMT emissions offset demonstration element in the December 28, 2020 CARB submittal for the Los Angeles – San Bernardino Counties (West Mojave Desert) as meeting the requirements of CAA section 182(d)(1)(A) and 40 CFR 51.1302 for the 2015 ozone NAAQS.

IV. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at <https://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Order 12866, Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act

This rule does not impose any new information collection burden under the Paperwork Reduction Act not already approved by the OMB.

C. Regulatory Flexibility Act

I certify that this action will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act. This action will not impose any requirements on small entities.

D. Unfunded Mandates Reform Act

This action does not contain any unfunded mandate as described in the Unfunded Mandates Reform Act, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local or tribal governments, or the private sector.

E. Executive Order 13132, Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, tribes, or the relationship between the national government and the states and tribes, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175, Coordination with Indian Tribal Governments

Executive Order 13175, entitled “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 9, 2000), requires the EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” “Policies that have tribal implications” is defined in the Executive Order to include regulations that have “substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian Tribes.”

The state’s submission does not apply to any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175.

G. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

H. Executive Order 13211, Actions That Significantly Affect Energy Supply, Distribution, or Use

This proposed action is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population

The State did not evaluate environmental justice considerations as part of its SIP submittal. There is no information in the record indicating that this action would be inconsistent with the stated goals of Executive Order 12898 of achieving environmental justice for people of color, low-income populations, and indigenous peoples.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: December 14, 2022.

Martha Guzman Aceves,
Regional Administrator,
Region IX.